Reg. No. : | | | | | | | | | | |

Question Paper Code: 49502

B.E./B.Tech. DEGREE EXAMINATION, SEP 2020

Elective

Electronics and Communication Engineering

14UEI902-PRINCIPLES OF DIGITAL IMAGE PROCESSING

(Regulation 2014)

Duration: One hours Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following Questions)

1. Images quantized with insufficient brightness levels will lead to the occurrence of _____ CO1- R

   (a) Pixillation (b) Blurring (c) False Contours (d) Sampling

2. In an image accentuating a specific range is called CO1- R

   (a) slicing (b) color slicing (c) cutting (d)color enhancement

3. Identify the tool used in tasks such as zooming, shrinking, rotating, etc. CO2- R

   (a) Sampling (b) Interpolation

   (c) Filters (d) Rasterisation

4. A_____achieves smoothing comparable to the arithmetic mean filter, but it tends to lose less image detail in the process. CO2- R

   (a) Arithmetic mean filter (b) geometric mean filter

   (c) spatial filter (d) none of above

5. Restoration cannot be done using CO3- R

   (a) single projection (b) double projection

   (c) triple projection (d) octa projection

6. In wiener filtering it is assumed that noise and image are CO3- R

   (a) different (b) homogeneous (c) uncorrelated (d) correlated

7. One that is not a method of image segmentation is CO4- R

(a) area (b) line (c) point (d) edge

8. The threshold used for each pixel depends on the location of the pixel in terms of the sub images, this type of thresholding is _____ CO4- R

(a) adaptive (b) static (c) modern (d) one of above

9. Shannons theorem is also called CO5- R

(a) noiseless coding theorem (b) noisy coding theorem

(c) coding theorem (d) noiseless theorem

10. Encoder is used for CO5- R

(a) image enhancement (b) image decompression

(c) image compression (d) image equalization

PART – B (3 x 8= 24 Marks)

(Answer any three of the following Questions)

11. Illustrate the elements of digital image processing systems. CO1 -U (8)

12. Define histogram and explain the histogram equalization of image enhancement in detail with equations. CO2- U (8)

13. Illustrate constrained least square filtering for image restoration and derive its transfer function. CO3 -U (8)

14. Examine region based segmentation and region growing with an example. CO4 -U (8)

15. Discuss about MPEG standard and compare with JPEG. CO5- U (8)